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Descriptions of three new species of *Aloeides* Hübner (Lepidoptera: Lycaenidae) from the Transvaal, South Africa, and South West Africa (Namibia)

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Aloeides rossouwi spec. nov. and *A. nubilus* spec. nov. from the Transvaal, South Africa, and *A. tearei* spec. nov. from South West Africa (Namibia) are described, and notes on their known habits and distribution are given.

The genus *Aloeides* Hübner was revised by Tite & Dickson (1968, 1973), but since then further collecting in South Africa and South West Africa (Namibia) has led to the discovery of several new species. The two taxa from the Transvaal were discovered quite recently, while that from South West Africa has been known for a number of years and the late Dr G. van Son thought that it could represent a new species. The terminology used in the descriptions follows that of Tite & Dickson (1968, 1973).

Aloeides rossouwi spec. nov., Figs 1, 2, 7, 8, 14, 22

MALE. Closest to *A. dryas* Tite & Dickson, 1968, on the upper side, but differs in usually having 2 or 3 orange subapical spots in the black apical patch of the fore wing. Apical patches of both fore and hind wings generally larger. Under side closest to that of *A. dentatis* (Swierstra, 1909). Palpi (Fig. 22) without the ribbon-like scales which are present in *A. dryas* (Fig. 21), and more slender than palpi of *A. dentatis* (Fig. 23). Genitalia: aedeagus (Fig. 14) longer and thinner than in *A. dryas* (Fig. 13) and more curved than in *A. dentatis* (Fig. 15).

FEMALE. Closest to that of *A. dryas* on the upper side but differs in having 2 to 3 orange subapical spots in the black apical patch of fore wing. Apical patches of both fore and hind wings generally larger. Under side closest to that of *A. dentatis*.

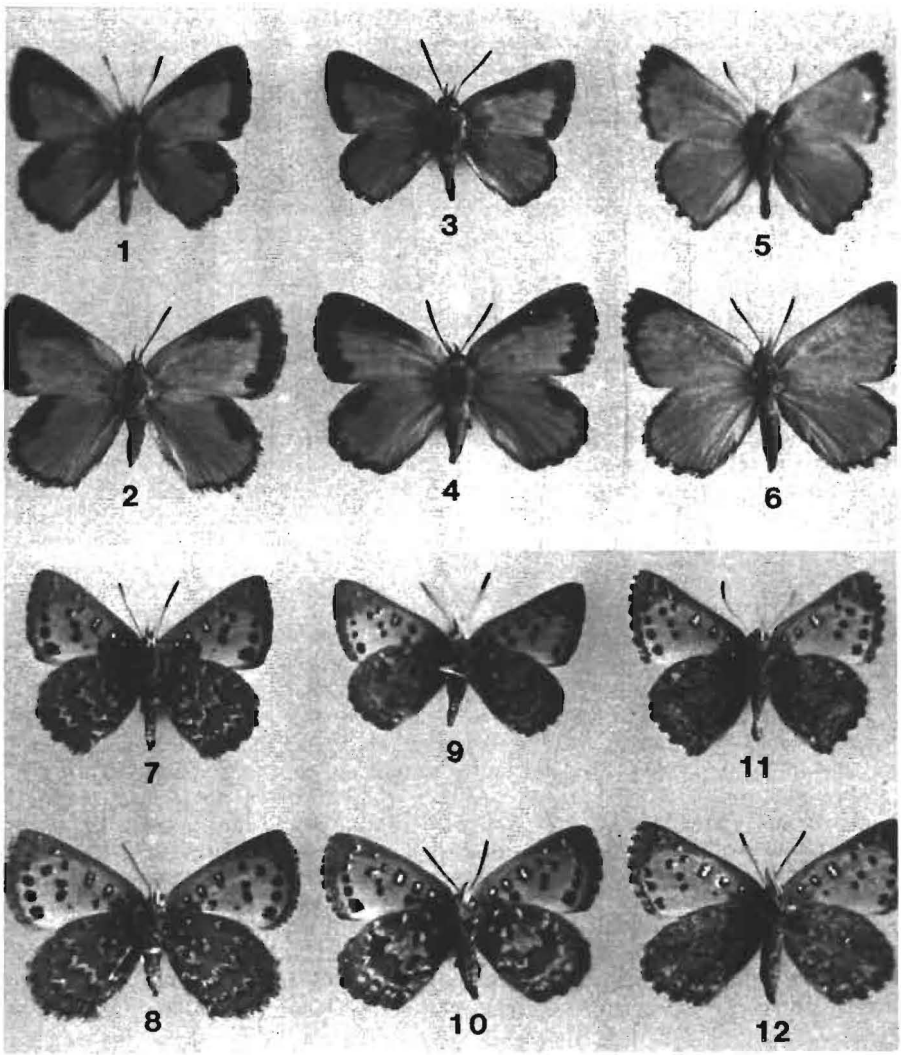
MALE HOLOTYPE. Fore-wing length 14,2 mm; antenna-wing ratio 0,50. Palpi heavily covered with rather broad scales, those on third segment reddish-brown, those on first and second greyish-white with some reddish-brown patches. No ribbon-like scales on palpi. *Wings: upper side.* Fore wing: tawny-orange, with black distal band and apical patch; latter with two orange subapical spots that extend basad along costa to median area where it fuses with an ochreous stripe arising from base. Black distal band of equal width except in area 1b, where it projects basad. Cilia grey, becoming black at ends of veins. Hind wing: tawny-orange with irregular black apical patch and a continuous narrow sinuate marginal band; anal fold ochreous. Cilia grey, becoming blackish at ends of veins. *Under side.* Fore wing; tawny-orange, margined by a continuous crimson costal and distal marginal band. Three white-centred black spots in cell; a median series of six black spots, upper four bordered with silvery-white, spot in area 4 being placed distad, those in 5 and 7 slightly basad. Submarginal spots largest in area 1b, diminishing in size as they approach the apex; upper four spots are bordered proximally with silvery-grey. Cilia mainly black, becoming slightly greyer interneurally. Hind wing: crimson-red with bold pattern of black and silvery-white markings. Four basal spots, a round spot in the centre of area 7, discoidal fascia broken up into separate spots, very irregular sinuate median series, and a series of submarginal lunules. Median and submarginal series proximally silvery-white and distally black. Cilia reddish-brown.

MALE PARATYPES. Fore-wing lengths 13,4–15,8 mm; antenna-wing ratios 0,48–0,50, mean 0,49. *Wings: upper side.* Several paratypes differ from the holotype in having the orange subapical spots indistinct, distal band of the fore wing slightly wider, apical patches of both the fore and hind wings slightly larger. *Under side.* Pattern similar to holotype but some specimens have crimson-red areas of both fore and hind wings pinkish-brown.

FEMALE PARATYPES. Fore-wing lengths 14,3–16,1 mm; antenna-wing ratios 0,44–0,47, mean 0,45. Palpi with first and second segments greyish-white, the third reddish-brown. *Wings: upper side.* Fore wing: tawny-orange, black distal band and apical patch as in holotype. Cilia dark grey. Hind wing: tawny-orange with irregular black apical patch and continuous narrow sinuate marginal band; anal fold ochreous and cilia dark grey. *Under side.* Similar to that of the holotype.

MATERIAL EXAMINED. SOUTH AFRICA: ♂ Holotype, Stoffberg, Transvaal, 10.ii.1980, G. A. Henning. Paratypes: 1 ♀ Stoffberg, Transvaal, 3.iii.1979, D. J. Rossouw; 7 ♂ same data as holotype; 3 ♂ 1 ♀ same data but 19.i.1980; 3 ♂ 1 ♀ same data but 9.xi.1980, G. A. Henning; 1 ♀ same data but 12.x.1980, G. A. Henning (ex pupa); 1 ♀ same data but 15.xi.1980, G. A. Henning (ex pupa); 1 ♀ same data but 13.i.1979, D. J. Rossouw. The holotype is deposited in the Transvaal Museum, Pretoria; paratypes are in the collections of D. J. Rossouw (Pretoria), W. H., S. F. and G. A. Henning (Florida, Transvaal), N. K. Owen-Johnston (Johannesburg), the Transvaal Museum and the British Museum (Natural History).

DISTRIBUTION AND HABITS. Mr D. J. Rossouw caught a single female in January 1979 and realised that it possibly represented a new species. Several more visits to the area in 1979 to obtain further specimens were relatively unsuccessful, as only one



Figs 1–12. *Aloeides rossouwi* spec. nov., *A. nubilus* spec. nov. and *A. tearei* spec. nov. Upper side. 1. *A. rossouwi* ♂ holotype. 2. *A. rossouwi* ♀ allotype. 3. *A. nubilus* ♂ holotype. 4. *A. nubilus* ♀ allotype. 5. *A. tearei* ♂ holotype. 6. *A. tearei* ♀ allotype. Under side. 7. *A. rossouwi* ♂ holotype. 8. *A. rossouwi* ♀ allotype. 9. *A. nubilus* ♂ holotype. 10. *A. nubilus* ♀ allotype. 11. *A. tearei* ♂ holotype. 12. *A. tearei* ♀ allotype.

additional specimen was collected. It was not until February 1980 that the authors captured adequate material to draw up a satisfactory description. Both sexes were found flying along rocky gullies below the peaks of a high grassy escarpment south-west of Stoffberg. Their flight is similar to that of other members of the genus, being swift and direct but of short duration. They usually settle on rocks protruding from the grass, or on patches of gravel. Pupae were found in the tunnels of an ants' nest beneath a stone. The ants belonged to the genus *Acantholepis*.

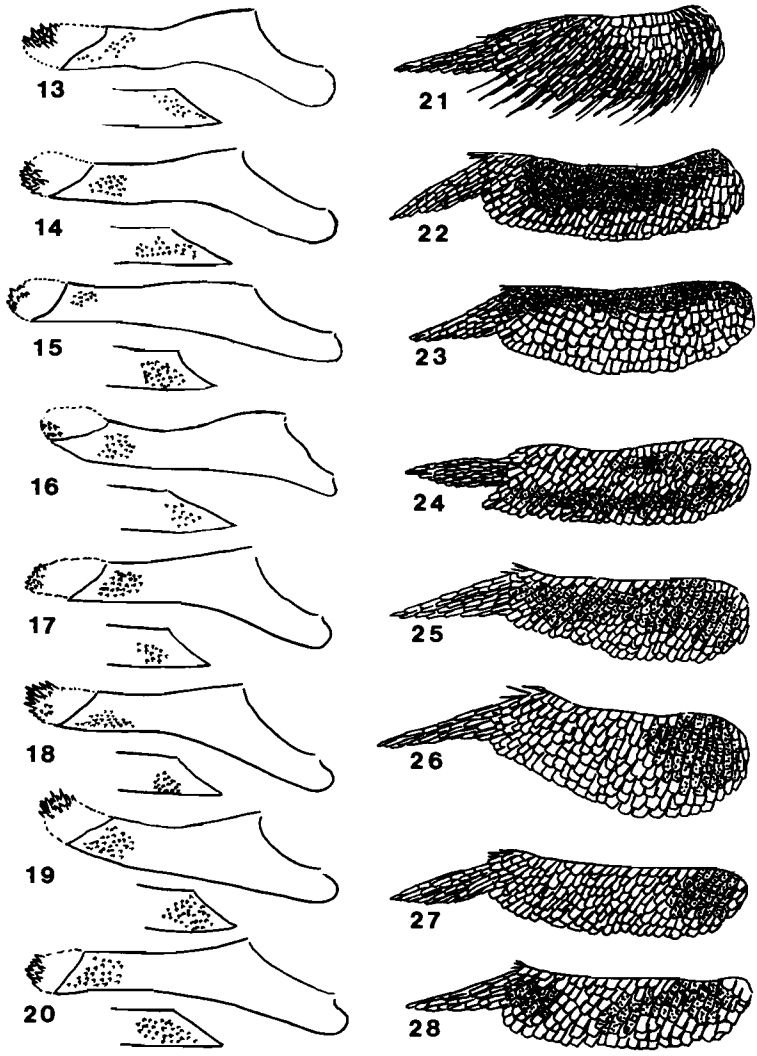
This species is named after Mr D. J. Rossouw, who captured the first specimen.

Aloeides nubilus spec. nov., Figs 3, 4, 9, 10, 16, 24

MALE. Closest to *A. dryas* Tite & Dickson, 1968, but smaller with more elongate wing shape. Inner edge of distal band of fore wing upper side more irregular. Hind wing under side differs in having well-developed discoidal fascia which often run together to form a large silvery patch; dark margins to silvery areas broader than in *A. dryas* and not as sharply dentated. Submarginal silvery band complete, extending from costa to inner margin as in *A. dentatis* (Swierstra). There are also clear greyish-white submarginal dots. Palpi (Fig. 24) without ribbon-like scales found in *A. dryas* (Fig. 21). Genitalia: aedeagus (Fig. 16) similar to that of *A. dryas* (Fig. 13) but with fewer cornuti on everted vesica and slightly different in shape.

FEMALE. Closest to *A. dryas* on upper side but with ground colour paler and inner edge of fore wing distal band more irregular. The under side differences as in male.

MALE HOLOTYPE. Fore-wing length 13,9 mm; antenna-wing ratio 0,51. Palpi heavily covered with rather broad scales, those on second and third segment being greyish-white with patches of reddish-brown scales, first segment greyish-white. No ribbon-like scales on palpi. *Wings: upper side.* Fore wing: tawny-orange, with black distal band and apical patch, the latter extending along costa nearly to the base where it becomes suffused with ochreous scales. Distal band of equal width, with inner edge slightly irregular. Cilia grey, becoming black at ends of veins. Hind wing: tawny-orange with irregular black apical patch and continuous narrow sinuate marginal band; anal fold ochreous. Cilia grey, becoming blackish at ends of veins. *Under side.* Fore wing: tawny-orange, margined by continuous reddish-brown costal and distal marginal bands. Three white-centred black spots in cell; a median series of five black spots, upper three of which are bordered with silvery-white, spot in area 4 placed distad and in 5 slightly basad of others. Submarginal spots largest in area 1b and diminish in size as they approach apex; upper three bordered proximally with silvery-grey and indistinct. Cilia mainly black, slightly greyer interneurally. Hind wing: pinkish-brown dusted with grey along veins and with a pattern of black and silvery-white markings. Four basal spots, a round spot in centre of area 7, irregular discoidal fascia composed of conjoined spots fused with median series and one of the basal spots, very irregular sinuate median series, complete series of submarginal lunules and a marginal series of white dots. Median and submarginal series proximally silvery-white and distally black. Cilia reddish-brown.



Figs 13–28. Aedeagus. 13. *Aloeides dryas*. 14. *A. rossouwi*. 15. *A. dentatis*. 16. *A. nubilus*. 17. *A. tearei*. 18. *A. simplex*. 19. *A. bamptoni*. 20. *A. nollothi*. Palpi. 21. *A. dryas*. 22. *A. rossouwi*. 23. *A. dentatis*. 24. *A. nubilus*. 25. *A. tearei*. 26. *A. simplex*. 27. *A. bamptoni*. 28. *A. nollothi*.

MALE PARATYPES. Fore-wing lengths 13,1–14,9 mm; antenna-wing ratios 0,50–0,51, mean 0,51. *Wings: upper side.* Several paratypes differ from holotype in having the distal band of fore wing slightly wider or narrower, and apical patches of both fore and hind wings slightly variable. *Under side.* Pattern similar to that of holotype but pinkish-brown areas of both fore and hind wings paler in some specimens and redder in others.

FEMALE PARATYPES. Fore-wing lengths 16,2–16,3 mm; antenna-wing ratios 0,41–0,42. *Wings: upper side.* Fore wing tawny-orange with black distal band and apical patch as in holotype, but with a distinct spot in latter marking. Cilia greyish-orange and black at ends of veins. Hind wing: tawny-orange with irregular black apical patch, continuous narrow sinuate marginal band and black submarginal dots; anal fold ochreous and cilia greyish-orange, becoming dark brown at ends of veins. *Under side.* Similar to that of holotype.

MATERIAL EXAMINED. SOUTH AFRICA: ♂ Holotype, Klipbankspruit, Sabie, Transvaal, 15.ix.1973, D. R. Hull. Paratypes: 2 ♀ same data as holotype but D. J. Rossouw; 4 ♂ same data as holotype; 2 ♂ Mount Sheba, Sabie, 7–9.x.1977, A. R. Currie. The holotype is deposited in the Transvaal Museum, Pretoria; paratypes are in the collections of W. H., S. F. and G. A. Henning (Florida, Transvaal), A. R. Currie (Johannesburg, Transvaal), D. R. Hull (Lydenburg, Transvaal) and D. J. Rossouw (Pretoria, Transvaal).

DISTRIBUTION AND HABITS. This species inhabits the moist highland areas of the Eastern Transvaal in the Sabie area. It is found on rocky outcrops that occur between patches of forest. It exhibits the usual *Aloeides* habits, settling on rocks or on the ground. The first specimens of this species were captured by Mr D. R. Hull and Mr D. J. Rossouw in September 1973 at Klipbankspruit. Dr A. R. Currie collected representatives near the Mount Sheba Nature Reserve in October 1977; he recognised it as being distinct and brought it to the attention of the authors.

Aloeides tearei spec. nov. Figs 5, 6, 11, 12, 17, 25

MALE. Closest to *Aloeides simplex* (Trimen, 1893) in wing shape. Upper-side markings closest to those of *A. bamptoni* Tite & Dickson, 1977, but dark borders tend to be narrower. Under side closest to that of *A. nollothi* Tite & Dickson, 1977, but submarginal lunules of hind wing better developed. Palpi (Fig. 25) without ribbon-like scales and more slender than *A. simplex* (Fig. 26) and comparatively shorter than either *A. bamptoni* (Fig. 27) or *A. nollothi* (Fig. 28) Genitalia: aedeagus (Fig. 17) similar to that of related species but with cornuti on everted vesica shorter.

FEMALE. Closest to *A. simplex* on upper side but with margins much broader, and slightly paler in colour. Under side comes closest to that of *A. nollothi* but submarginal lunules of hind wing better developed.

MALE HOLOTYPE. Fore-wing length 14,3 mm; antenna-wing ratio 0,48. Palpi heavily covered with rather broad pale greyish-yellow scales and without long ribbon-like scales. *Wings: upper side.* Fore wing: tawny-orange, with narrow black distal band and small apical patch which extends along costa as a very narrow black line. Cilia

white with black at ends of veins. Hind wing: tawny-orange with continuous narrow black costal and distal marginal band; anal fold ochreous. Cilia black, becoming white interneurally. *Under side.* Fore wing: tawny-orange, margined by continuous dusky brown costal and distal marginal band. Three white-centred black spots in cell and a median series of five black spots, upper three bordered proximally with white, spots in area 4 placed distad and that in 5 slightly basad of the others. Submarginal series of black spots largest in area 1b, diminishing in size as they approach apex; upper four spots bordered proximally with silver-grey. A series of very small interneural white dots along margin. Cilia white, but dusky-brown at ends of veins. Hind wing: dusky-brown with indistinct pattern of black and silvery-grey markings. Three indistinct basal spots, round spot centrally in area 7, indistinct irregular discoidal fascia, very irregular sinuate median series and a series of indistinct submarginal lunules. Cilia dark brown, slightly touched with white interneurally.

MALE PARATYPES. Fore-wing lengths 12,9–15,2 mm; antenna-wing ratios 0,47–0,49, mean 0,48. *Wings: upper side.* Several paratypes differ from holotype in having distal band of fore wing slightly wider and apical patch slightly larger. *Under side.* As in holotype.

FEMALE PARATYPES. Fore-wing lengths 15,7–16,7 mm; antenna-wing ratios 0,41–0,45, mean 0,44. Palpi have first and second segments greyish-white and third greyish-brown. *Wings: upper side.* Fore wing: tawny-orange with narrow black distal band and small black apical patch as in holotype. Cilia white with black at ends of veins. Hind wing: tawny-orange with a continuous narrow black costal and distal band, anal fold ochreous and cilia greyish-white, but black at ends of veins. *Under side.* Similar to that of holotype.

MATERIAL EXAMINED. SOUTH WEST AFRICA (Namibia): ♂ Holotype, 13 km north of Aus, 19.v.1965, R. C. Littlewood. Paratypes: 1 ♀ same data but 21.v.1965, R. C. Littlewood; 1 ♀ same data as holotype; 13 ♂ 2♀ same data but 20.v.1965, R. C. Littlewood; 1 ♂ same data but 21.v.1965; 1 ♀ same data but 16.ix.1950, G. Van Son; 2 ♂ same data but v.1976, J. Bolz; 1 ♂ same data but 1.xii.1961, R. C. Littlewood. The holotype is deposited in the Transvaal Museum, Pretoria, paratypes are in the collections of W. H., S. F. and G. A. Henning (Florida, Transvaal), D. M. Kroon and W. Teare (Sasolburg, O.F.S.) and the Transvaal Museum.

DISTRIBUTION AND HABITS. Southern South West Africa (Namibia) near the town of Aus. Inhabiting an arid area, this species exhibits the usual *Aloeides* habits, short swift flight settling on the ground or on rocks.

REMARKS. This species first came to our attention in 1963 when three specimens were presented to us as *A. simplex* by Mr L. Schroder of Johannesburg. He also had several other specimens, all taken in the region of Aus in October 1963. Mr W. Teare of Benoni, Transvaal, informed us that he also had specimens from Aus, taken in May 1965 by Mr R. C. Littlewood, and that it was his opinion that these were not *A. simplex*, but a new species. This butterfly was referred to and figured in Tite &

Dickson (1968) under the description of *A. simplex*. These authors, after describing a series of *A. simplex* from Kuruman, state 'In contrast, a series from Aus and Namib in South West Africa, though variable in size, do tend to be smaller; their dark borders are wider, in one female attaining a width of 3 mm in area 3 of the fore wing. The under side of the hind wing is dusky-brown. Dr van Son states that the large sandy form does occur together with the small one at Aus, and suggests that there is a slight possibility that two species are involved; he thinks it unlikely that they are seasonal or geographical forms'.

Since that time further specimens of *A. simplex* have become available for study. Tite & Dickson (1977) described two new species from Namaqualand, *A. bamptoni* and *A. nollothi*, which are closely related to *A. simplex*. With the additional specimens of *A. simplex*, and related species available for study, the authors have decided to treat the specimens from Aus as representing a new species. This species is named after the late Mr W. Teare who recognised it as new and brought it to our attention.

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